



MAILMAN

PATCH XM*7.1*50 DESCRIPTION

July 1999

Department of Veterans Affairs
VISTA Software Development
Infrastructure Product Line

Table of Contents

Changes in Response to NOIS	1
Changes in Response to E3Rs	13
Changes in Response to Perceived Opportunities for Improvement	22
Retired APIs	24
New APIs.....	24
Changes to MailMan Code.....	32
Move Existing Routines From the Reserved XMZ* Namespace	32
Change Existing Routines to Take Advantage of New Routines	32
Rewrite Information Routines	38
Rewrite Interactive Interface Routines to Use APIs.....	38
Rewrite Message-Posting Routines	39
Rewrite Message Delivery Routines.....	39
Rewrite Utility Routines	39
Rewrite Vitae Routines	40
Create APIs Routines	40
Add Pre- and Post- Installation Routines.....	41
Changes to MailMan Globals	42
Changes to Bulletins	62
Changes to Functions.....	62
Changes to Help Frames	62
Changes to Options	72

Table of Contents

Patch XM*7.1*50 contains many changes, changes which are in response to 65 NOIS (56 distinct defects), 47 E3R (40 distinct suggestions), and to perceived opportunities for improvement.

Changes in Response to NOIS

(Listed: 1. alphabetically, 2. in month/year order, and 3. in numeric order)

NOIS ALB-0795-51873

Problem: Site is using a combination of APIs KLQ^XMA1B and S2^XMA1B to move messages from one basket to another, and finds the documentation lacking.

Resolution: New "save messages" API, MOVEMSG^XMXAPI, makes task easier.

NOIS ALL-0297-41999, BTM-1095-10195, CIH-1197-40757

Problem: Sites have merged, or changed their names, or both, yet they cannot change their MailMan site names to their new names or switch from ".VA.GOV" to ".MED.VA.GOV", because MailMan code can't handle it.

Resolution: Problem fixed. Updated MailMan code can handle site name changes and maintain message threading. This patch will add the new names as synonyms to the current names. Patch XM*7.1*51, to be released after all sites have installed this patch, will perform the actual name change.

NOIS ANC-0699-52725

Problem: When using the option to terminate a user (XMMGR-TERMINATE-ONE), an error occurs if a bulletin is triggered.

Resolution: Problem fixed.

NOIS ANN-0797-42370

Problem: API WHO^XMA21 does not properly handle deleting users from recipient list, nor does it properly add remote recipients.

Resolution: Problem fixed. New API, TOWHOM^XMXAPI, also may be used.

NOIS AUG-0596-32196

Problem: When doing a "QD" on a local message, MailMan does not show "forwarded by:" if the sender of the message is the one who forwarded it, leaving one to infer the forwarder.

Resolution: Infer no more! MailMan now tracks and displays the forwarder of all forwarded messages, even if the sender is the forwarder.

NOIS BHH-0297-41710

Problem: In SHARED,MAIL, if one user resequences a basket, another user accessing the same basket at the same time might be told (erroneously) that there are no messages in the basket, and asked should the basket be deleted?

Resolution: Problem fixed. MailMan no longer kills the basket's message index before sequencing.

NOIS BHH-0398-40149

Problem: If a user's institution is null, then () is sometimes displayed after the user's name.

Resolution: Problem fixed. MailMan no longer displays () if the institution is null.

NOIS BHH-1298-41690

Problem: If a user tries to edit a message in a basket whose IEN > 1000, MailMan thinks the basket is a remote message queue and asks the user whether the message should go to the head of the queue or not.

Resolution: Problem fixed. MailMan no longer thinks it's a message queue.

NOIS BRX-1095-11209

Problem: When a message is forwarded from Site A to Site B, the recipient at Site B has no way of knowing who at Site A forwarded it.

Resolution: This information is now captured, and available (via QD).

NOIS BRX-0397-11363

Problem: When a user picks a basket by its IEN, VA FileMan always asks "OK?". This was introduced by a VA FileMan patch, but it is annoying.

Resolution: User will no longer be able to pick a basket by just its IEN. Instead, the user will have to precede the IEN by accent grave.

NOIS BRX-0897-12178, MAD-0298-40838

Problem: Under certain conditions, MailMan aborts when a user copies a new message with responses.

Resolution: Problem fixed.

NOIS BRX-0997-10675, REN-1298-61735

Problem: If a mail group contains a "circular" reference, MailMan bombs when expanding the group, as it tries to follow an infinite loop.

Resolution: MailMan now recognizes and ignores "circular" references in mail groups, and gives an appropriate warning to the user.

NOIS BRX-1297-10085

Problem: Sometimes, when a user sends a message to a large mail group, the message is delivered "new" to the user.

Resolution: Anomaly corrected.

NOIS BRX-0598-10262

Problem: During a QD of a message, MailMan does not report that a surrogate of a user has read the message.

Resolution: Problem corrected.

NOIS CAN-1298-10722

Problem: Routine ^XMAPHOST does not "new" a variable which it uses, and consequently "clobbers" that same variable used by a calling routine.

Resolution: Problem corrected.

NOIS CHS-0699-40357

Problem: MailMan does not close the print device after printing all new messages.

Resolution: MailMan now closes the print device when it's finished printing all new messages.

NOIS CLA-0296-21352

Problem: Call to send message using ^XMD results in message being sent to XMDUZ, too, even though XMDUZ is not part of the XMY array.

Resolution: New "send message" API, SENDMSG^XMXAPI, fixes problem and provides more functionality.

NOIS CMO-0697-40078

Problem: Site noticed that even though the DD for Field #1, FROM, in File #3.9 shows a "C" cross-reference, there are no "C" cross-references being created.

Resolution: "C" cross-reference deleted on File #3.9, Field #1, FROM, because it is neither used, nor needed. (This cross-reference was not being created because VA FileMan was not being used to create records. With this patch, however, MailMan will be using a lot more of VA FileMan, and the files will more closely match their DDs.)

NOIS DAY-0797-42149

Problem: MailMan goes into an infinite loop if it tries to print a message to a device whose IOM is less than 2. This is caused by MailMan writing no more than IOM-1 characters per line, and splitting up longer lines over several writes, with intervening carriage returns.

Resolution: MailMan ignores IOM if it is less than 2, and writes out the whole line at once to the device.

NOIS DAY-0398-42506

Problem: API \$\$MG^XMBGRP does not return a "failure" code when all prospective mail group members are rejected.

Resolution: It does now.

NOIS DMA-1198-N1103

Problem: Message IDs from remote, non-VA, sites can exceed 64 characters. MailMan's message index (the "AI" cross-reference) can only handle message IDs up to 64 characters in length. This can cause responses to be attached to the wrong messages.

Resolution: MailMan can now handle longer message IDs, thus, increasing the accuracy of its message index and greatly reducing the possibility of responses being attached to the wrong message. The format of the "AI" cross-reference has changed:

From: ^XMBX(3.9,"AI",site,msgid,xmz)=fm date/time

To: ^XMBX(3.9,"AI",site,msgid,xmz)=fm date

NOIS DUB-0994-30208

Problem: Option XMMGR-DISK-MANY-MESSAGE-MAINT is not queueable.

Resolution: It is now.

NOIS HIN-0497-42865

Problem: When mail groups are addressed, their LAST REFERENCED date and REFERENCE COUNT fields are updated, but those of their member groups are not.

Resolution: They are now.

NOIS HIN-1097-41350

Problem: Inactive users who are members of mail groups receive mail when they shouldn't.

Resolution: Local users who are mail group members must have a mailbox and an access code in order to receive mail.

NOIS HIN-1097-41360

Problem: Message numbers are defined in the MESSAGE file (#3.9) to be up to nine digits long. Message numbers already exist which are longer than that.

Resolution: Message numbers can now be up to 15 digits long.

NOIS HIN-0499-41599, TAM-0499-32398

Problem: When DUZ is zero, ^XMD sometimes aborts.

Resolution: When DUZ is zero or undefined, ^XMD will assume Postmaster.

NOIS HOU-0997-72287

Problem: MailMan's failure to "new" a variable causes call to ^DIR to give false default.

Resolution: Problem corrected.

NOIS HOU-0199-72729

Problem: Under some circumstances, MailMan may attempt to use an out-of-service script when sending messages to a remote site.

Resolution: MailMan will now only use an out-of-service script if the user specifically selects it.

NOIS HUN-0299-20563

Problem: MailMan locks inappropriate node, which, in this situation, caused total user lockout.

Resolution: MailMan no longer locks inappropriate node.

NOIS IND-1097-41592

Problem: The message reply API, \$\$ENT^XMA2R, does not accept a global reference as the body of the reply.

Resolution: The new message reply API, REPLYMSG^XMXAPI, does.

NOIS IOW-0598-41181

Problem: "Later" a message does not accept a date in the format: **mmdd**.

Resolution: It does now.

NOIS ISW-1296-20406

Problem: When XMY(G.mail group) is used as input to ^XMB (to send a bulletin to the mail group), G.mail group (unexpanded) is placed in the recipient multiple. Subsequent "QD" shows "G.mail group Not read".

Resolution: MailMan now expands the mail group.

NOIS ISW-0197-20394

Problem: When a user forwards a message to a remote site, which had already been sent to that site and subsequently purged at that site, the message is rejected (duplicate – purged), but the user isn't notified.

Resolution: MailMan now sends the user an appropriate error message.

NOIS IVM-0197-31493

Problem: MailMan gets confused and loses track of number of responses to a message under certain conditions during "conversation" with the user to establish from which response the user wants to print.

Resolution: MailMan no longer loses track of number of responses.

NOIS KAN-0197-41499

Problem: MailMan doesn't lock the proper node when deleting a message from a basket.

Resolution: MailMan now locks the proper node.

NOIS LAS-0798-61037

Problem: The Transmit TWIX option always selects the first transmission script, regardless of script priority. Additionally, it ignores the "physical link" and "network address" fields in the script and insists on getting those values from the domain record.

Resolution: The script selection now works the way it works for all other transmissions. The priority field is checked, and the MAILMAN HOST and PHYSICAL LINK defined in the script are used. If those fields are not defined in the script, then the field values for the domain are used.

NOIS MAD-1195-42253

Problem: Surrogate can't access confidential message, even though surrogate sent it for the user.

Resolution: Surrogate may now access confidential message if it was the surrogate who sent it.

NOIS MAD-0697-41762, REN-0995-61968

Problem: User is able to enter a blank message subject during message creation. MailMan aborts if user enters a blank subject when sending an anonymous suggestion.

Resolution: MailMan will no longer abort. The message subject can no longer be blank. Leading and trailing blanks are deleted. Any sequence of three or more blanks is reduced to two blanks. If a user enters a blank or null subject, the subject will default to "* No Subject *". When a message whose subject is "* No Subject *" is sent to a remote site, the subject transmitted (in the header record) is null. This is useful for sending a message to a list server (to join or drop a list, etc.) whose subject must be blank and whose text must contain the command to the list server.

NOIS MCM-0696-51225

Problem: Message header during "backup" to view responses is not consistent.

Resolution: Message header display is now consistent.

NOIS MCM-0297-50914

Problem: When several messages are forwarded at the same time, the addressees are put into the ADDRESSED TO multiple only for the first message, not the rest. (The addressees are put into the RECIPIENT multiple for all of the messages.) So, while "QD" shows the proper information for all the messages, "Q" shows the proper information only for the first message.

Resolution: Problem corrected.

NOIS MCM-0297-51041

Problem: When a message is sent to a group with an "INFO:" prefix, that fact is preserved in the RECIPIENT multiple, but not in the ADDRESSED TO multiple of the message. Consequently, "Q" does not show that the group was addressed as "INFO:", while "QD" does.

Resolution: Problem fixed.

NOIS MCM-0297-52030

Problem: When a user sends a message to a group at a remote site and the group is for authorized senders only, the message is not sent to the group (which is correct). However, the sender is never notified, and the status of the message at the sending site indicates that the message was delivered at the remote site.

Resolution: The sender is now notified, and the status indicates that the sender was not authorized to send to the group.

NOIS MCM-0497-53082

Problem: "Help screen" for "Kpriority" toggle is missing.

Resolution: "Help screen" created.

NOIS MCM-0598-51973

Problem: The MailMan security manual lists the security keys: XMPRIORITY and XMPRIORITY-OVERRIDE. Yet neither key is used in MailMan.

Resolution: Those keys are removed from the documentation.

NOIS NCH-0299-41111

Problem: When a user forwards a message to another user who has terminated from the message, MailMan does not properly note who forwarded the message.

Resolution: It does now.

NOIS NYN-0399-10761

Problem: MailMan lets you add a terminated user to a mail group.

Resolution: Users must now have an access code and a mailbox in order to be added to a mail group.

NOIS OKL-1297-70995

Problem: When a person has a forwarding address to a closed domain, MailMan will try to forward messages to that domain, even though it is closed.

Resolution: MailMan will ignore forwarding addresses to closed domains.

NOIS PHO-0898-61407

Problem: Terminate a range of messages from the "WASTE" basket does not work.

Resolution: It does now.

NOIS SAJ-0498-72535

Problem: The bulletin API, ^XMB, kills a variable in use by the routine calling it, causing it to abort.

Resolution: ^XMB now "news" all of the variables it uses.

NOIS TUC-0695-62074

Problem: When ^jumping to the network management menu, MailMan displays its intro text (hello, you have new messages, etc.) twice, which is annoying.

Resolution: It will now be displayed only once.

NOIS TUC-0695-62146

Problem: When a user changes a banner, two bulletins are sent, which is annoying.

Resolution: Only one bulletin will be sent upon banner change.

NOIS TUC-0398-62045

Problem: When a user prints enough lines to P-MESSAGE, it can cause the volume set to fill up and e-mail to come to a halt.

Resolution: A new field (#16.1, P-MESSAGE LINE LIMIT) in the MAILMAN SITE PARAMETERS file will let site management limit the number of lines that can be printed to P-MESSAGE.

NOIS WAS-1298-22733

Problem: It isn't clear in the documentation that a mail group with authorized senders cannot receive mail from remote users.

Resolution: A warning is added to the description in the AUTHORIZED SENDER field in the MAIL GROUP file (#3.8), that remote users are not able to send any mail to local groups with authorized senders.

NOIS WPB-1097-32056, ALX-0199-71509, DUB-0399-30192, PRO-0499-10520

Problem: In some situations, text from one bulletin is tacked on to text in the next bulletin.

Resolution: Problem fixed.

NOIS WPB-0698-30105

Problem: At the "message action// ignore" prompt, a "write" followed by a "copy" causes MailMan to abort.

Resolution: Problem fixed.

NOIS WPB-0798-32507

Problem: If a message is from a remote sender, and a response is sent using the function `$$ENT^XMA2R`, the response should also be sent to the remote sender. It isn't.

Resolution: Problem fixed. Parameter added to specify whether to keep the reply local or to send response to remote sender, too.

Changes in Response to E3Rs

(Listed in numeric order)

E3R 1110

Request: Provide capability to create a message, send it now, and later it for me.

Resolution: At the "Send to" prompt, type "L:your name". The message will be sent to you right away, but will also be "latered" for you at the date/time you specify.

E3R 1254

Request: Send bulletins to forwarding addresses.

Resolution: OK.

E3R 1837, E3R 7451

Request: Add capability to display messages in reverse arrival order.

Resolution: OK. User may specify preference (forward or reverse order) via a new field (#17, MESSAGE ORDER) in the MAILBOX file (#3.7), accessible under the User Options Edit option.

E3R 2323

Request: Include message numbers in search results.

Resolution: OK.

E3R 3089, E3R 3923, E3R 6473

Request: Provide capability to create message now, but send it later.

Resolution: At the "Transmit Now" prompt, type "Later". You are asked what time to send it. A task is created to send the message at the specified time. You are able to manipulate the task using existing TaskMan options.

E3R 6429

- Request: Provide capability to create message now, but send to recipients at individually specified times.
- Resolution: At the "Send to" prompt, type "L:recipient". You are asked what time to send the message to that recipient. When querying the message later, "Q" shows the later date that the message will be delivered to the recipient. "QD" does not show the recipient until after the message has been delivered.

E3R 6524

- Request: Provide capability to create message now, but queue delivery for later (to save me time).
- Resolution: At the "Send to" prompt, type "L:G.group". You are asked what time to send the message to the group. When querying the message later, "Q" shows the later date that the message will be delivered to the group. "QD" does not show the group members until after the message has been delivered. Also, if MailMan detects that you are sending a message to a large group, you'll be asked whether you'd like to queue delivery for a later date and time. A new field (#7.2, BIG GROUP SIZE) in the MAILMAN SITE PARAMETERS file (#4.3) lets IRM define what "large" means.

E3R 6569

- Request: Provide capability to "later" a group of messages.
- Resolution: OK.

E3R 6986

- Request: Display DUZ on user lookup, so that I can find out the user's DUZ, and use the DUZ, instead of the name, when addressing future messages.
- Resolution: OK. A new field (#7.3, SHOW DUZ WHEN ADDRESS MESSAGE) in the MAILMAN SITE PARAMETERS file (#4.3) lets IRM decide whether the DUZ should be displayed.

E3R 7351

- Request: Allow basket names to start with numbers.
- Resolution: OK, but in order to pick basket by its IEN now, you must precede the IEN by accent grave.

E3R 7353

Request: Display mail baskets in alphabetic order.

Resolution: OK, but in order to pick a basket by its IEN now, you must precede the IEN by accent grave.

E3R 7432

Request: Resolve disparity. Phone numbers and addresses are in both MailMan and NEW PERSON files.

Resolution: Phone and address fields will be deleted from the MAILBOX file (#3.7). MailMan's User Options Edit option will now edit phone and address fields in the NEW PERSON file (#200). However, since there may be *home* addresses in the address fields in the NEW PERSON file, a new field (#7.4, SHOW ADDRESS ON USER LOOKUP) has been added to the MAILMAN SITE PARAMETERS file (#4.3). It lets each site decide whether or not a user's address will be shown when someone does a user lookup.

E3R 7449, E3R 8501

Request: Don't wrap back to first message after last message is read. Or give better indication of end of basket.

Resolution: OK. User will be prompted, "End reached. Begin again? NO//"

E3R 7822

Request: Allow the mail group Organizer the same edit capabilities as the Coordinator.

Resolution: OK.

E3R 8073

Request: Stay with current message upon up-arrow out of message "save".

Resolution: OK.

E3R 8204

Request: If delete message during creation, ask "Are you sure?"

Resolution: OK.

E3R 8283

- Request: During "Answer", let user edit original message.
- Resolution: OK. "Answer" now copies the original message before the user is placed into the editor, so the user is able to edit the copy of the original message while adding the answer.

E3R 8328

- Request: Capture and display full Internet "from" address, including the clear-text name, when supplied, on messages that come from remote Internet sites.
- Resolution: OK. Previously, MailMan captured the envelope "from" address (MAIL FROM:< . . >) and put it in the FROM field (# 1). Now, MailMan puts the envelope "from" in a new field (#41, ENVELOPE FROM). The RFC 822 header "from" (FROM:< . . >) is now captured for the first time and placed in field 1 "FROM". Responses will go to the "FROM" address. Errors noted during transit and delivery will go to the "ENVELOPE FROM" address.

E3R 8395

- Request: Enable a postmaster to set auto-vaporize dates on messages that s/he sends.
- Resolution: OK. Anyone will be able to set auto-vaporize dates on messages s/he originates. When the message is delivered to the user, the auto-vaporize date will be set into the basket's message record. The user will be able to alter/delete the auto-vaporize date for the message in his/her own basket. The auto-vaporize date will be included in messages sent to remote sites.

E3R 8514

- Request: Enable the sender of a new message to specify the basket to which a message should be delivered.
- Resolution: OK, the sender of a new message now has the capability to specify the basket to which the message should be delivered for all recipients, even future recipients, should the message be forwarded. However, this will work only if the recipients have chosen to allow such target basket delivery. Otherwise, the message will be delivered as usual.

E3R 8560

- Request: In user info, make mail groups listing pause and page, instead of scrolling by.
- Resolution: OK.

E3R 8759

Request: When looping through entries in a mailbox, show the subject and sender of the next message, in addition to its message number.

Resolution: OK. User may specify preference via a new field (#6, SHOW MESSAGE PREVIEW) in the MAILBOX file (#3.7), accessible under the User Options Edit option.

E3R 8988, E3R 10303

Request: Implement message filtering.

Resolution: OK. You'll be able to set up standing instructions, which specify into which baskets (even the "WASTE" basket!) certain messages should be delivered. Filtering is based on any combination of subject content, sender matching, and addressee matching.

E3R 9087

Request: Enable printing of a single response or selection of responses.

Resolution: OK. And you'll be able to copy selected responses, too.

E3R 9293, E3R 10333

Request: Enable message search by recipient.

Resolution: OK. Search will be on those addressees which appear during Q (not QD). In addition, you'll be able to search on "message sent" date range and on message contents.

E3R 9630, E3R 9875

Request: Delete messages marked for automatic deletion when that date arrives. We shouldn't have to run the "IN basket purge".

Resolution: OK. Deletion of such messages will occur daily, and will be handled by the same process which "news" "latered" messages.

E3R 9687

Request: List responses in reverse order when requesting an index during backup.

Resolution: OK. Responses will be listed in the same order as your message order preference. (See E3R 1837.)

E3R 9937

Request: Add a field that allows bulletins to be predefined to be priority.

Resolution: OK. Field #12, "PRIORITY?," has been added to the BULLETIN file (#3.6).

E3R 10334

Request: Add basket to "later'd messages" report.

Resolution: OK.

E3R 10447

Request: Enable message numbers to be recycled, to avoid huge ones.

Resolution: OK. A new field (#17.1, MAX DIGITS FOR MESSAGE NUMBER) has been added to File #4.3, to let each site decide how large the numbers may get before they recycle back and start again from 100000. (They start at 100000 to avoid any confusion between message numbers and message sequence numbers in baskets.) The purge routines (date purge and unreferenced messages purge) can therefore no longer operate on message number. Instead, they now operate off a new field (#31, LOCAL CREATE DATE) in File #3.9, and its "C" cross-reference. This field is set with the current date (no time) at the time a new message stub is created. (For locally created messages, this will usually, but not necessarily, be the same as the date sent. For incoming messages from remote sites, this acts as a "date-received" stamp.) The date purge routine is now much faster since it has an appropriate cross-reference to work with. Fields in Files #3.7 and #4.3, which previously referred to message numbers, now refer to date:

File #3.7, MAILBOX:

Field No.	Previously	With Patch 50
3.7,1.2	MESSAGE @ REINSTATEMENT	DATE @ REINSTATEMENT

File #4.3, MAILMAN SITE PARAMETERS:

Field No.	Previously	With Patch 50
4.3,4.301	NO-PURGE MESSAGES BUFFER	NO-PURGE DAYS BUFFER
4.302,3	FIRST MESSAGE TO PROCESS	START PURGE DATE
4.302,4	LAST MESSAGE TO PROCESS	STOP PURGE DATE
4.302,8	LAST MESSAGE PROCESSED	LAST DATE PROCESSED
4.3,4.304	WEEKDAY MESSAGES TO PURGE	WEEKDAY DAYS TO PURGE

E3R 10510

Request: When displaying the list of users whose identity a user may assume during surrogate selection, show number of new messages, as well as the read/write privileges.

Resolution: OK.

E3R 10634

Request: Honor a user's message forwarding instructions when delivering broadcast messages.

Resolution: OK. With one exception: The daily Secretary's message on FORUM will *not* be forwarded, because it is already sent to every site.

E3R 10807

Request: Make messages queued to P-MESSAGE appear new to the user when they are delivered.

Resolution: A new field (#16.3, P-MESSAGE FROM) in the MAILBOX file (#3.7), accessible under the User Options Edit option, lets each user decide whether the default sender of any P-MESSAGE they originate will be the user or the POSTMASTER. Messages that appear to be from the POSTMASTER, instead of from the user, will appear new to the user. Any queued P-MESSAGE prints will be from the default sender identified by this field. Any interactive P-MESSAGE prints will ask the user from whom the P-MESSAGE should be.

E3R 10849

Request: Allow postmaster surrogates to delete confidential messages from remote transmission baskets.

Resolution: OK.

E3R 11083

Request: Let mail group coordinators edit member groups, too.

Resolution: OK.

E3R 11095

Request: Add "Quit" choice to "new mail" prompt.

Resolution: OK.

E3R 11430

Request: When a message is sent to a recipient's forwarding address, indicate that the recipient forwarded the message, instead of by the sender or forwarder of the message.

Resolution: OK.

E3R 11602

Request: Display all 4 digits of the year in the "latered messages" report.

Resolution: OK.

E3R 11707

Request: When a user who does not possess the XUPROGMODE key prints a PackMan message, print only the description.

Resolution: All users, regardless of keys, will be given a choice of what to print, with the default being just the description.

E3R 11960

Request: Create a MailMan GUI front end.

Resolution: While MailMan will not create a GUI front end, it will facilitate it by providing appropriate APIs so that others might. Using the APIs provided in this patch, Indianapolis has created a GUI front end and SAIC Corp. has created an Internet front end.

Changes in Response to Perceived Opportunities for Improvement

Code in all new routines in this patch has been written to:

- Use top-down, structured coding techniques
- Avoid "goto"
- Use meaningful variable names
- Document routines in-line
- "New" variables
- Put separate functions in separate routines
- Use VA FileMan to set fields that cause triggering or cause indices to be set

The user interface has been improved so that:

- User menus:
 - are renamed to make them more user-friendly
 - are rearranged to have the most-used items at top
 - have synonyms only for the most popular options
- User choices at every prompt are more:
 - apparent
 - intuitive
 - flexible
- ? and ?? elicit standard help, for the most part
- User help frames have been completely updated to reflect the user interface

There is a whole new full-screen message management environment. Users may choose to use the original (classic) reader or the new one, or both.

When a user replies to a message, the subject begins with "Re:", instead of "Reply to:". The user can choose to include previous responses in the reply, so that those responses can be more easily addressed. Replies are immediately attached to the original message (instead of waiting until reply delivery), so that "conversations" on the message are possible.

"Confirm receipt" is implemented over the network by adding to outgoing messages or accepting from incoming messages the popular, but unofficial, RFC 822 header: "Return-Receipt-To:"<message sender>. This sends a confirmation message to the message sender when the recipient has read the message.

The headers that Microsoft Exchange uses to designate priority and confidential messages are recognized and used, to some extent. (High priority is recognized. Confidential is recognized, but the degree of confidentiality is not.)

The global integrity checker (XMUT-CHKFILE) has been improved to recognize and correct more errors and to provide better error messages.

Local mail posting and delivery globals (^XMBPOST) and routines (^XMAD) have been changed to improve efficiency. Details of the new mechanisms can be found in the "New Management Features in MailMan V. 7.1 & XM*7.1*50" topic in the "Implementation and Maintenance" section of the *MailMan V. 7.1 and Patch XM*7.1*50 Technical Manual*.

Where possible, all interactions with the user have been changed to standard VA FileMan calls.

Retired APIs

The following APIs have been retired (superceded by others) and will no longer be supported:

- \$\$CHECK^XMAREAD NO LONGER SUPPORTED. Use ^DIR instead.
- \$\$READ^XMAREAD NO LONGER SUPPORTED. Use ^DIR instead.
- \$\$ENT^XMDF NO LONGER SUPPORTED. Use ENT1^XMD.
- \$\$EN^XMGAPI1 NO LONGER SUPPORTED. Use INIT^XMOVVITAE.

New APIs

Effective with MailMan V. 7.1 with Patch XM*7.1*50 new APIs have been created. These new APIs are similar to VA FileMan APIs, as a move toward a time when other front ends (such as GUI) can be written for MailMan. Where possible, existing MailMan code has been altered to use the new APIs.

User Setup (^XMOVVITAE)

- INIT Initialize variables used throughout MailMan.
- OTHER Change certain MailMan settings when the user becomes a surrogate.
- SELF Restore certain MailMan settings when the user becomes himself or herself again, after having been a surrogate.

Message Actions (^XMXAPI)

- ANSRMSG Answer a message (Send a new message, with a copy of the original message to the sender of the original message).
- DELMSG Delete messages from a basket
- FLTRMSG Filter messages in a basket.
- FWDMSG Forward messages from a basket.
- LATERMSG "Later" messages in a basket.
- MOVEMSG Move messages (from one basket) to another basket.
- PRTMSG Print messages.
- PUTSERV Put a message in a server basket.
- REPLYMSG Reply to message (Attach reply to original message).
- SENDBULL Send a bulletin (returns XMZ).
- SENDMSG Send a message.
- TASKBULL Send a bulletin (quicker than SENDBULL, but does *not* return XMZ).

- TERMMSG Terminate messages, possibly from a basket.
- ZAPSERV Delete a message from a server basket.

Message Action Building Blocks (^XMXAPI)

- ADDRNSND Address and send a message (does *not* handle message body).
- CRE8XMZ Create a new message stub in the MESSAGE file (#3.9).
- TOWHOM Check one message addressee.
- VSUBJ Validate a subject.

Mailbox Actions (^XMXAPIB)

- CRE8MBOX Create a mailbox for a user.
- FLTRMBOX Filter all messages in a user's mailbox.
- QMBOX Query a mailbox for new messages.
- TERMMBOX Remove all traces of a user from MailMan globals.

Basket Actions (^XMXAPIB)

- CRE8BSKT Create a basket.
- DELBSKT Delete a user's basket.
- FLTRBSKT Filter messages in a basket.
- LISTBSKT Get a list of baskets in a mailbox.
- LISTMSGs Get a list of messages in one or all baskets in a mailbox. Search criteria can be used.
- NAMEBSKT Change the name of a basket.
- QBSKT Get information on a basket.
- RSEQBSKT Resequence messages in a basket.

Interactive User Options/Actions (^XM & ^XMXAPIU)

^XM

- EN Meant to be the entry action of the primary MailMan option. It sets up the user's MailMan environment and calls HEADER^XM to greet the user.
- CHECKIN Meant to be the entry action of any subordinate MailMan option.
- CHECKOUT Meant to be the exit action of every MailMan option.
- HEADER Meant to be part of the entry action of the primary MailMan option, whether called by itself or as part of another call (e.g., EN^XM). It displays a greeting to the user.

^XMXAPIU

- READ Read/Manage messages in your mailbox.
- READNEW Read new messages in your mailbox.
- SEND Send a message.
- TOWHOM Ask user for message addressees.

Message Editing Routines (^XMXEDIT)

The following ^XMXEDIT routines perform the actual message editing:

- CLOSED Toggle the message's "closed" flag.
- CONFID Toggle the message's "confidential" flag.
- CONFIRM Toggle the message's "confirm receipt requested" flag.
- DELIVER Set/Delete the message delivery basket for all users.
- INFO Toggle the message's "information only" flag.
- PRIORITY Toggle the message's "priority" flag.
- SUBJ Change the message subject.
- TEXT Replace the message text.
- VAPOR Set/Delete the message vaporize date.

Message Security and Restrictions Functions and Routines (^XMXSEC)

- \$\$BCAST Returns whether a message was broadcast.
- \$\$CLOSED Returns whether a message is closed.
- \$\$CONFID Returns whether a message is confidential.
- \$\$CONFIRM Returns whether a message is confirm receipt requested.
- \$\$INFO Returns whether a message is information only.

- **\$\$ORIGIN8R** Returns whether the user (XMDUZ or DUZ) sent the message (sender or surrogate).
- **\$\$PRIORITY** Returns whether a message is priority.
- **\$\$SURRCONF** Returns whether a message is confidential, and if it is, whether the surrogate may access it.
- **\$\$ZCLOSED** Returns whether a message is closed.
- **\$\$ZCONFID** Returns whether a message is confidential.
- **\$\$ZCONFIRM** Returns whether a message is confirm receipt requested.
- **\$\$ZINFO** Returns whether a message is information only.
- **\$\$ZORIGIN8** Returns whether the user (XMDUZ or DUZ) sent the message (sender or surrogate).
- **\$\$ZPOSTPRV** Returns whether the user has Postmaster privileges, including whether the user may perform group message actions in SHARED,MAIL.
- **\$\$ZPRI** Returns whether a message is priority.

The following ^XMVSEC functions set XMERR and ^TMP("XMERR",\$J), if access/permission is denied:

- **\$\$ACCESS** Returns whether the user may access a message.
- **\$\$ANSWER** Returns whether the user may answer a message.
- **\$\$COPY** Returns whether the user may copy a message.
- **\$\$DELETE** Returns whether the user may delete or terminate a message.
- **\$\$FORWARD** Returns whether the user may forward a message.
- **\$\$LATER** Returns whether the user may later a message.
- **\$\$MOVE** Returns whether the user may save or filter a message.
- **\$\$POSTPRIV** Returns whether the user has Postmaster privileges, including whether the user may perform group message actions in SHARED,MAIL.
- **\$\$READ** Returns whether the user may read a message.
- **\$\$REPLY** Returns whether the user may reply to a message.
- **\$\$RPRIV** Returns whether the surrogate has READ privileges.
- **\$\$RWPRIV** Returns whether the surrogate has READ or WRITE privileges.
- **\$\$SEND** Returns whether the user may send a message.
- **\$\$SURRACC** Returns whether the surrogate may access a message.
- **\$\$WPRIV** Returns whether the surrogate has WRITE privileges.

Message Security and Restrictions Functions and Routines—Continued (^XMSEC1)

- **\$\$COPYLIMS** When copying a message, this function returns the sites message copy limits.
- **\$\$PAKMAN** Returns whether a message is a PackMan message.
- **CHKLINES** Checks whether the message is too long to be sent to a remote site.
- **GETRESTR** Returns assorted restrictions, if any, on sending or forwarding the message.
- **OPTGRP** Determines what the user may do at the basket or message group level.

The following ^XMSEC1 routine sets XMERR and ^TMP("XMERR",\$J), if access/permission is denied:

- **\$\$COPYAMT** When copying a message, this function checks the total number of lines and responses to be copied.
- **\$\$COPYRECP** When copying a message, this function checks the total number of recipients on the message to see if it's "OK" to list them in the copy text and also send the copy to them.
- **CHKMSG** Checks whether a message is located where the calling routine says it is and whether the user may access it.

Message Security and Restrictions Functions and Routines—Continued (^XMSEC2)

- **OPTEDIT** If OPTMSG^XMSEC2 determines that the user may edit the message, then this routine details what exactly the user may and may not edit.
- **OPTMSG** Determines what the user may do with the message.

The following ^XMSEC2 function sets XMERR and ^TMP("XMERR",\$J), if permission is denied:

- **\$\$EDIT** Returns whether the user may edit a message.

Message and Mailbox Utility Functions and Routines (^XMUTIL)

- **\$\$BMSGCT** Returns the number of messages in a user's basket.
- **\$\$BNMSGCT** Returns the number of new messages in a user's basket.
- **\$\$BSKTNAME** Returns the name of a user's basket.
- **\$\$NAME** Returns the name of the user by looking up XMDUZ in the NEW PERSON file (#200). Optionally, it may also return the user's title and/or institution.
- **\$\$NETNAME** Returns the network name of a user, including the @site name.
- **\$\$NEWS** Returns the information on new messages in a user's mailbox.
- **\$\$TMSGCT** Returns the total number of messages in a user's mailbox.
- **\$\$TNMSGCT** Returns the total number of new messages in a user's mailbox.

- KVAPOR Sets/Removes a message vaporize date in a user's basket.
- LASTACC Records that the user has read the message.
- MAKENEW Makes a message new and updates the new message counts.
- NONEW Makes a message *not* new and updates the new message counts.
- PAGE Displays to the user: "Enter RETURN to continue or '^' to exit:" and waits until the user presses a key.
- WAIT Displays to the user: "Press RETURN to continue:" and waits until the user presses a key.

Date and String Utility Functions and Routines (^XMXUTIL1)

- \$\$CONVERT Given the Internet date/time string, it returns the VA FileMan date/time.
- \$\$CTRL Strips the control characters from a string.
- \$\$DECODEUP Change all ~U~ to ^ in a string.
- \$\$ENCODEUP Change all ^ to ~U~ in a string.
- \$\$GMTDIFF Given the time zone, it returns +-hhmm difference from Greenwich Mean Time (GMT).
- \$\$INDT Given the VA FileMan date/time, it returns the Internet date/time string: **dd mm yy hh:mm:ss +-hhmm (time zone)**.
- \$\$MAXBLANK Reduce all three or more consecutive blanks in a string to two.
- \$\$MELD Combine a string and a number to form a new string of a given length.
- \$\$MMDT Given the VA FileMan date/time, it returns the string: **dd mmm yy hh:mm**.
- \$\$SCRUB Strips the control characters and leading/trailing blanks from a string.
- \$\$STRIP Strips the leading/trailing blanks from a string.
- \$\$TIMEDIFF Given the decimal time difference, it returns +-hhmm (e.g. -2.5 equates to -0230).
- \$\$TSTAMP Returns a timestamp (\$H expressed in seconds).
- ZONEDIFF Given the time zone (or time difference +-hhmm from GMT), it returns the number of hours and minutes difference between that and the local time zone.

Message Information Functions and Routines (^XMXUTIL2)

- \$\$BSKT Returns in which basket a message is located for a user.
- \$\$DATE Returns the message sent date in external format:
DD MMM YY HHJ:MM
- \$\$FROM Returns the message from in external format.
- \$\$KSEQN Returns the sequence number for a message in this user's basket.
- \$\$LINE Returns the number of lines in the text of a message.
- \$\$NEW Returns whether the message is new for this user in this basket.
- \$\$PRI Returns whether the message is priority.
- \$\$QRESP Determines whether a message is a response or not.
- \$\$RESP Returns the number of responses to a message.
- \$\$SUBJ Returns the message subject in external format.
- \$\$ZDATE Returns the message sent date in external format:
DD MMM YY HHJ:MM
- \$\$ZFROM Returns the message from in external format.
- \$\$ZNODE Returns the message zero node: **^XMB(3,9,XMZ,0)**.
- \$\$ZPRI Returns whether the message is priority.
- \$\$ZREAD Returns the number of responses to a message this user has read.
- \$\$ZSUBJ Returns the message subject in external format.
- INMSG Message information.
- INMSG1 Message information, Part 1.
- INMSG2 Message information, Part 2.
- INRESP Response information.
- INRESPS How many responses? What's the user read?

Message Information Routines (^XMXUTIL3)

- Q Lists/Finds message addressees.
- QD Lists/Finds message recipients.
- QL Lists/Finds "latered" message addressees.
- QN Get the network header records from a message that originated at a remote site.

Changes to MailMan Code

Move Existing Routines From the Reserved XMZ* Namespace

XMUTERM was XMZTERM (This patch deletes XMZTERM from your system.)
 XMUTERM1 was XMZTERM1 (This patch deletes XMZTERM1 from your system.)

Change Existing Routines to Take Advantage of New Routines

XM redo
 XM0 obsolete. relevant code absorbed into ^XMADDRD
 XMA replace code in REC^XMA with call to MANAGE^XMJBM
 XMA0 replace code in ENTPRT^XMA0 with call to PRINT^XMJMP
 replace code in PR2^XMA0 with call to PRINTMSG^XMJMP
 replace code in HDR^XMA0 with call to PRINTMSG^XMJMP
 XMA01 obsolete
 XMA02 obsolete
 XMA03 replace code in \$\$REN^XMA03 with call to RSEQBSKT^MXAPIB
 XMA0A obsolete
 XMA1 obsolete
 XMA10 obsolete
 XMA11 delete obsolete code
 XMA11A replace code in WRITE^XMA11A with call to ANSWER^XMJMA or to
 SEND^XMJMS
 XMA11B obsolete
 XMA1A obsolete
 XMA1B replace code in S2^XMA1B with call to PUTMSG^MXMSGGS
 replace code in KL^XMA1B with call to ZAPIT^MXMSGGS
 XMA1C replace code in SETSB^XMA1C with call to PUTSERV^MXMSGGS1
 replace code in REMSBMSG^XMA1C with call to ZAPSERV^MXMSGGS1
 XMA1E obsolete
 XMA2 replace code in GET^XMA2 and XMZ^XMA2 with call to CRE8XMZ^MXSEND
 XMA20 obsolete

XMA21	replace code in CHK^XMA21 replace code in DES^XMA21 with call to TOWHOM^XMJMT replace code in DEST^XMA21 with call to TOWHOM^XMJMT replace code in INST^XMA21 with call to CHKADDR^MXADDR replace code in WHO^XMA21 with call to CHKADDR^MXADDR
XMA210	obsolete
XMA21A	obsolete
XMA21B	obsolete
XMA21FWD	obsolete
XMA21G	obsolete
XMA22	obsolete
XMA24	obsolete
XMA25	obsolete
XMA2B	call BLOB^XMJMS at entry BLOB
XMA2C	obsolete
XMA2C0	obsolete
XMA2R	replace code in \$\$ENT^XMA2R replace code in \$\$ENTA^XMA2R
XMA3	replace call to KILL^XMA3 with KILLMSG^MXUTIL change to recognize new ^XMBPOST
XMA30	remove entry ENT
XMA32	replace call to ZIS^XMAH1 with ZIS^XM
XMA32A	replace call to KL^XMA1B with ZAPIT^MXMSGs replace call to KILL^XMA3 with KILLMSG^MXUTIL
XMA4	obsolete
XMA5	obsolete
XMA50	obsolete
XMA51	obsolete
XMA5A	obsolete
XMA6	obsolete
XMA7	obsolete
XMA7G	obsolete
XMA7G1	obsolete
XMAD0	obsolete

Patch XM*7.1*50 Description

XMAD1	obsolete
XMAD1A	obsolete
XMAD1X	obsolete
XMAD2	replace code in \$\$BSKT^XMAD2 with call to CRE8BSKT^XMXAPIB
XMADA	obsolete
XMADDOC	obsolete
XMADDOC1	obsolete. relevant code absorbed into ^XMKPLQ
XMADDOC2	obsolete
XMADGO	delete obsolete code replace code in ZTSK^XMADGO with call to ZTSK^XMKPLQ
XMADGO1	obsolete
XMADJ999	obsolete
XMADJF0	obsolete
XMADJF1	obsolete
XMADJF1A	obsolete
XMADJF1B	obsolete
XMAH	replace code in ENT8^XMAH with call to HELPPRESP^XMJMP1
XMAH0	obsolete
XMAH1	replace code in ENTA^XMAH1 with call to REPLY^XMJMR
XMAI	obsolete
XMAI0	obsolete
XMAI1	obsolete
XMAI2	redo (send message to users with too many messages)
XMAK	obsolete
XMAL0	obsolete
XMAL0A	obsolete
XMANON	obsolete
XMAP	obsolete
XMAP0	obsolete
XMAP1	obsolete
XMAPHOST	redo (print to mail message: P-MESSAGE)
XMASEC	obsolete. relevant code absorbed into ^XMPSEC

XMB	replace code in ^XMB with call to TASKBULL^MXBULL replace code in EN^XMB with call to SEND^MXBULL replace call to TASKER^XMR with call to RECV^XMS3
XMB1	obsolete
XMBGRP	fix NOIS
XMBPOST	change retry interval
XMC	call INIT^XMOVITAE replace call to ENT1^XMR0 with call to ENT1^XMR
XMC1	replace call to ENT1^XMR0 with call to ENT1^XMR
XMC11	redo call to ^XMC11A replace call to ENT1^XMR0 with call to ENT1^XMR
XMC11A	replace call to ^XMAREAD with ^DIR
XMC2	replace call to TASKER^XMR with call to RECV^XMS3 replace call to BAT^XMR0 with call to BAT^XMR
XMC3	redo close channel code
XMC4	delete obsolete code replace call to ^XMAL0 with call to LIST^XMJML
XMCD	replace call to ^XME1 with call to LOADCODE^XMJMCODE
XMCTLK	replace call to KILL^XMA3 with KILLMSG^MXUTIL
XMD	replace code in ^XMD, ENL^XMD, ENT^XMD, ENT1^XMD, ENT2^XMD
XMDF	replace code in \$\$ENT^XMDF
XMDIRQST	replace call to ^XMAREAD with ^DIR
XMDIRRCV	replace call to REMSBMSG^XMA1C with ZAPSERV^MXMSG1
XMDIRSND	replace call to REMSBMSG^XMA1C with ZAPSERV^MXMSG1 replace call to \$\$ENTA^XMA2R with ANSERMSG^MXANSER
XME	obsolete. relevant code absorbed into ^XMJMCODE
XME1	obsolete. relevant code absorbed into ^XMJMCODE
XMFAQ	don't show () if no institution
XMGAPI2	replace call to CONVERT^XMA32A with CONVERT^MXUTIL1
XMGAPI3	redo (local broadcast of message from FORUM postmaster)
XMGAPI4	replace some code in \$\$NU^XMGAPI4
XMJMQ	replace call to SUMMARY with call to DETAIL
XMJMQ1	continuation of XMJMQ
XMP	identify subject for VA FileMan editor

XMP2A	replace call to ZIS^XMAH1 with ZIS^XM
XMP3	redo
XMPC	redo
XMPG	redo entry point ENT to use ^XMSEN
XMPH	replace call to KILL^XMA3 with KILLMSG^XMUTIL replace calls to GETTIME^XMA2 & QUE^XMA02 with EN^XUTMDEVQ
XMPSEC	replace call to ENX^XMD with SENDMSG^XMSEN
XMR	replace call to KL^XMA1B with ZAPIT^MXMSG replace call to WHOXM^XMA21 with CHKADDR^MXADDR replace call to ENT1^XMR0 with call to ENT1^XMR
XMR0	obsolete. relevant code absorbed by ^XMR
XMR0A	redo
XMR0B	replace call to ^XMB with TASKBULL^MXBULL replace call to ^XMD with SENDMSG^XMSEN replace call to S2^XMA1B with PUTMSG^MXMSG
XMR0BLOB	replace code in \$\$2005 with call to UPDATE^DIE
XMR1	redo
XMR1A	redo
XMR2	remove code for "LOCK" command
XMRENT	redo
XMRMSM	replace call to ENT^XMR0 with call to ENT^XMR
XMRONT	replace call to ENT^XMR0 with call to ENT^XMR
XMRPCTS0	replace call to KL^XMA1B with ZAPIT^MXMSG
XMRPCTS1	replace call to KILL^XMA3 with KILLMSG^XMUTIL
XMRPCTSA	replace code with call to \$INDT^MXUTIL1
XMRTCP	replace call to ENT^XMR0 with call to ENT^XMR
XMRUCX	replace call to ENT^XMR0 with call to ENT^XMR
XMS	replace call to KL^XMA1B with ZAPIT^MXMSG
XMS0	replace call to KL^XMA1B with ZAPIT^MXMSG redo calls to ^XMSM and ^XMSM1
XMS0A	rewrite a section of code replace call to USER^XMA with NAME^MXUTIL
XMS0BLOB	replace call to ^XMD with SENDMSG^MXMSG

XMS1	replace call to S2^XMA1B with PUTMSG^MXMSGGS redo call to ^XMSM
XMS2	obsolete
XMS3	replace call to ENX^XMD with SENDMSG^MXSEND replace call to ENT1^XMR0 with call to ENT1^XMR
XMS4	use \$\$BMSGCT^MXUTIL to get number of messages in basket replace call to ENT^XMA30 with EN^XUTMDEVQ
XMS5	replace call to \$\$REN^XMA03 with RSEQ^MXBSKT use \$\$BMSGCT^MXUTIL to get number of messages in basket replace call to ENT^XMA30 with EN^XUTMDEVQ
XMS5A	use \$\$BMSGCT^MXUTIL to get number of messages in basket
XMSERR	replace reference to XMFROM with XMNVFROM
XMSM	replace code with calls to TASKBULL^MXBULL
XMSM1	obsolete (absorbed by ^XMSM)
XMSMAIL	redo call to ^XMSM
XMUT1	replace code with call to PUTMSG^MXMSGGS replace call to ENT^XMA30 with EN^XUTMDEVQ code for ENTM replaced by LISTMBOX^XMJBL
XMUT1A	replace call to ENT^XMA30 with EN^XUTMDEVQ
XMUT2	redo
XMUT4	redo
XMUT4A	redo
XMUT4B	redo
XMUT4BA	redo
XMUT4C	redo
XMUT5	replace call to STATUS^XMADGO1 with STATUS^XMKPL
XMUT5B	change to recognize new ^XMBPOST global
XMUT5Q	change to recognize new ^XMBPOST global
XMUT6	change to recognize new ^XMBPOST global
XMUTPUR0	change to deal with new "AI" cross-reference
XMYMNEM	replace call to GETTIME^XMA02 & ^%ZTLOAD with EN^XUTMDEVQ
XMYPOST2	redo (lets sites change their names)
XMYPRE	change ^DOPT("XM" global

Rewrite Information Routines

XMH*	routines for giving information
XMHIG	give info on a group
XMHIU	give info on a user

Rewrite Interactive Interface Routines to Use APIs

XMJ*	routines for interactive basket and message handling
XMJB*	routines for interactive basket handling
XMJBL	list contents of all baskets
XMJBM	manage existing messages in basket
XMJBM1	continuation of XMJBM
XMJBN	read new messages in basket
XMJBU	basket utilities (select, rename)
XMJDIR	customized ^DIR for "set of codes" reads
XMJERR	display errors
XMJM*	routines for interactive message handling
XMJMA	answer messages
XMJMBULL	send bulletin interactively
XMJMC	copy messages
XMJMCODE	en/decrypt messages
XMJMD	later messages
XMJMF	find messages based on search criteria
XMJMFA	find messages in ^XMB(3.9
XMJMFB	find messages in user's mailbox
XMJML	list messages in basket (can't read them)
XMJMLN	list and read new messages in one or all baskets
XMJMLR	list and read messages in a basket
XMJMLR1	continuation of XMJMLR
XMJMOI	options for individual message activities
XMJMOIE	edit a message that the user has sent only to themselves
XMJMOR	options for range-of-messages activities
XMJMORX	options for range-of-messages activities for non-basket-specific lists
XMJMORX1	continuation of XMJMORX
XMJMP	print, backup messages

XMJMP1	continuation of XMJMP
XMJMR	send reply to message
XMJMRO	options for replying to messages
XMJMS	send new message
XMJMSA	send anonymous message to the suggestion box
XMJMISO	options for sending / answering messages
XMJMT	send to whom?

Rewrite Message-Posting Routines

XMK*	routines for posting messages
XMKP	address and mail message
XMKPL	make sure background filers are running
XMKPLQ	put local messages in correct local delivery queues
XMKPO	set up tasks for bulletin, server, device, and remote message delivery

Rewrite Message Delivery Routines

XMT*	routines for delivering messages
XMTDF	filter message
XMTDL	deliver message, local (to user's mailbox)
XMTDL1	continuation of XMTDL
XMTDL2	continuation of XMTDL
XMTDO	deliver server and device messages
XMTDT	deliver message later, auto-delete message, later message

Rewrite Utility Routines

XMU*	utility routines
XMUDNC	Domain Name Change
XMUPIN	MailMan identifies messages to delete during IN basket purge

Rewrite Vitae Routines

XMV*	routines involving a user's identity
XMVGROUP	create or join a mail group
XMVSURR	become a surrogate
XMVVITA	edit identity and preferences
XMVVITAE	set up identity and preferences

Create APIs Routines

XXM*	APIs
XXMADDR	main address resolver
XXMADDR1	continuation of XXMADDR
XXMADDR2	continuation of XXMADDR
XXMADDRD	Domain Name Server
XXMADDRG	group name resolver
XXMANSER	answer a message
XXMAPI	Message APIs
XXMAPIB	Mailbox and basket APIs
XXMAPIU	Interactive user APIs
XXMBSKT	basket handling
XXMBULL	send a bulletin
XXMEDIT	edit a message
XXMLIST	get list of messages
XXMLIST1	continuation of XXMLIST
XXMBOX	mailbox handling
XXMMSG	message handling
XXMMSG1	continuation of XXMMSG
XXMMSG2	continuation of XXMMSG
XXMPARM	Message APIs parameter checking
XXMPARM1	continuation of XXMPARM
XXMPARMB	Mailbox and basket APIs parameter checking
XXMPRT	print messages
XXMREPLY	reply to a message
XXMSEC	find out if a user is authorized to access a message
XXMSEC1	continuation of XXMSEC

XXMSEC2	find out what a user may and may not do with a message
XXMSEND	send a message
XXMTO	address a message
XXMUTIL	mailbox and message utilities used by other routines
XXMUTIL1	string and date manipulation utilities used by other routines
XXMUTIL2	message information utilities
XXMUTIL3	message information utilities
XXMUTIL4	continuation of XXMUTIL3

Add Pre- and Post- Installation Routines

XXMPOST9	post-installation routine
XXMPOSTA	continuation of post-installation routine
XXMPRE2	pre-installation routine
XXMPRE2A	continuation of pre-installation routine
XXMPRE2B	continuation of pre-installation routine

Changes to MailMan Globals

All globals were reviewed/modified to:

- Eliminate redundant fields
- Verify all fields being used are also defined in VA FileMan
- Verify all fields defined in VA FileMan are used
- Verify all indices are defined in VA FileMan
- Use triggers, where appropriate
- Move triggers from inappropriate fields to appropriate ones
- Verify that all fields are properly named
- Verify that all fields are properly defined

^XMB(3.6, BULLETIN file

- **Fields Added**

3.6,5 0;3 RETENTION DAYS

➤ to set vaporization date (not used)

3.6,12 0;4 PRIORITY?

➤ should message be priority? (yes/no)

^XMB(3.7, MAILBOX file

➤ file name changed

- **Fields Deleted** (18 month notification period waived by DBA)

3.7,4.6 0;4 PHONE NUMBERS

➤ duplicates ^VA(200

3.7,4.7 3;0 ADDRESS

➤ duplicates ^VA(200

3.7,6 T;2 *LAST RESPONSE SEEN

➤ previously marked for deletion

3.7,10 10;0 ALREADY SIGNED ON TO DEVICES

➤ multiple not used

3.706,.01 0;1 ALREADY SIGN ON TO DEVICES

➤ not used

3.706,1	0;2	PRIORITY
➤	not used	
3.7,20	.1;1	LAST SYSTEM SIGNON DATE/TIME
➤	not used	
3.7,21	.2;1	TERMINAL TYPE LAST USED
➤	not used	
3.701,3	0;3	FIRST POTENTIAL EMPTY SLOT
➤	no longer used	
3.701,4	0;4	HIGHEST SLOT NUMBER
➤	no longer used	
3.701,5	0;5	NUMBER OF MESSAGES IN BASKET
➤	no longer used	
3.702,1	1;1	*RETRIEVAL KEYWORDS
➤	previously marked for deletion	

- **Fields Added**

3.7,1.11	0;14	LAST MESSAGE RECEIVED DATE/TIME
➤	moved from "N0" cross-reference ^XMB(3.7,XMDUZ,"N0",0)	
3.7,1.12	0;15	LAST NEW MESSAGE NOTIFY DATE/TIME
➤	user's last new message notification	
3.7,6	0;4	SHOW MESSAGE PREVIEW
➤	yes/no	
3.7,7.5	T;4	BLOB MESSAGE
➤	in use, but wasn't in DD (yes/no)	
3.701,3	0;3	DELIVERY BASKET?
➤	accept target basket delivery? (yes/no)	
3.702,7	0;7	DELETE DATE SET BY MAILMAN?
➤	during in-basket-purge	
3.7,15	15;0	FILTER
➤	message filters multiple	
3.715,.01	0;1	FILTER
➤	filter name	
3.715,1	0;2	ORDER
➤	filter checking order	

3.715,2	0;3	BASKET
➤	basket to place message in	
3.715,3	0;4	STATUS
➤	on/off	
3.715,4	0;5	SUBJECT CONTAINS
➤	filter condition	
3.715,5	0;6	FROM
➤	filter condition	
3.715,6	0;7	ADDRESSED TO
➤	filter condition	
3.7,16	16;1	FILTER MESSAGES?
➤	yes/no	
3.7,16.2	16;2	ACCEPT DELIVERY BASKET?
➤	yes/no/only if already exists/selected baskets only	
3.7,16.3	16;3	P-MESSAGE FROM
➤	POSTMASTER/user	
3.7,17	0;13	MESSAGE ORDER
➤	indicates message order preference	
3.7,18	0;16	MESSAGE READER
➤	default message reader	
3.7,19	0;17	MESSAGE READER PROMPT
➤	ask/don't ask which message reader	

- **Fields Changed**

3.7,1	2;0	BASKET
➤	description changed	
3.701,.01	0;1	BASKET
➤	definition changed	
➤	name may now start with number	
➤	length may be 2-30 (was 3-30) chars	
➤	description changed	
3.701,2	0;2	# NEW MESSAGES IN BASKET
➤	name & definition changed	
➤	length may be 1-5 (was 1-4) digits	

- 3.7,1.2 0;7 DATE @ REINSTATEMENT
- name, definition, & title changed
 - description changed
- 3.7,2 0;2 FORWARDING ADDRESS
- title changed
 - input transform changed
 - length may be 1-50 (was 1-45) chars
 - help prompt changed
 - description changed
- 3.7,2.1 0;8 LOCAL DELIVERY FLAG
- description changed
- 3.7,2.21 NS1;1 NETWORK SIGNATURE LINE 1 OF 3
- description changed
- 3.7,3 L;1 LATEST MAILMAN ACCESS
- definition & description changed
 - length may be 2-64 (was 2-20) chars
- 3.7,4 B;1 BANNER
- "kill" bulletin cross-reference deleted
- 3.7,9 6000;1 MAILMAN INSTITUTION
- description changed
- 3.7,11 0;9 MESSAGE ACTION DEFAULT
- description changed
- 3.7,13 0;10 SHOW TITLES
- description changed
- 3.7,14.1 0;12 PRIORITY RESPONSES PROMPT
- description changed
- 3.702,.01 1;0 MESSAGE
- DINUMed
 - unused "B" cross-reference deleted
 - "N" cross-reference moved to NEW FLAG
 - "N0" cross-reference moved to NEW FLAG
 - trigger for MAILBOX INDEX added

3.702,2 0;2 MAILBOX INDEX

- definition changed
- length may be 1-5 (was 1-4) digits
- description changed

3.702,3 0;3 NEW FLAG

- definition changed
- set of codes (0/1) (was free text)
- description changed
- "N" cross-reference moved from .01
- "N0" cross-reference moved from .01

3.702,4 0;4 LAST READ DATE/TIME

- name changed
- technical description added

3.702,5 0;5 AUTOMATIC DELETE DATE

- help prompt changed

3.702,6 0;6 NETWORK PRIORITY TRANSMISSION?

- name changed
- definition changed
- help prompt changed
- description changed
- "AC" cross-reference changed

^XMB(3.73, MESSAGES TO BE NEW AT A LATER DATE file

- The whole file has been changed.

^XMB(3.8, MAIL GROUP file

• **Fields Added**

3.81,1 0;2 TYPE

- info/cc

3.811,1 0;2 TYPE

- info/cc

- **Fields Changed**

3.8,.01	0;1	NAME
➤	"LAYGO" node changed	
3.81,.01	0;1	MEMBER
➤	title changed	
➤	help prompt changed	
➤	description changed	
➤	screen added	
3.8,6	4;0	AUTHORIZED SENDER
➤	description changed	
3.802,.01	0;1	AUTHORIZED SENDER
➤	description changed	
3.8,12	6;0	MEMBERS – REMOTE
➤	description changed	
3.812,.01	0;1	REMOTE MEMBER
➤	name changed	
➤	input transform changed	
➤	help prompt changed	
➤	description changed	

- **^XMB(3.9, MESSAGE file**

- screen changed

- **Fields Deleted** (18 month notification period waived by DBA)

3.9,1.9	4	LOCK
➤	not used	
3.9,8.5	K	SCRAMBLE KEY
➤	duplicated 1.85	

- **Fields Moved**

3.9,8.6	S;1	SURROGATE READER
➤	moved into RECIPIENT multiple	

- **Fields Added**

3.9,1.6	0;6	PURGE DATE
➤	date to purge message for all recipients	
3.9,9.5	IN;1	IN REPLY TO REMOTE MESSAGE ID
➤	in use, but not in DD	
3.91,12	S;1	SURROGATE READER
➤	was 3.9,8.6	
3.911,1	0;2	TYPE OF RECIPIENT
I:,CC:		
3.9,14	7;0	LATER DELIVERY TO
➤	"staggered delivery" multiple	
3.914,.01	0;1	LATER DELIVERY TO
➤	to whom text	
3.914,1	0;2	TYPE OF RECIPIENT
➤	I:, CC:	
3.914,2	0;3	BY WHOM DUZ
➤	who set up later delivery	
3.914,3	0;4	BY WHOM TEXT
➤	who set up later delivery	
3.914,4	0;5	DELIVERY DATE/TIME
➤	when should message be delivered	
3.9,21	.5;1	DELIVERY BASKET
➤	recipient basket to deliver message to	
3.9,31	.6;1	LOCAL CREATE DATE
➤	date message was added to File #3.9	
3.9,41	.7;1	ENVELOPE FROM
➤	MAIL FROM: in message envelope of incoming network messages	

- **Fields Changed**

3.9,.001		NUMBER
	➤	message number may be 1-15 digits
3.9,.01	0;1	SUBJECT
	➤	input transform changed
	➤	output transform added
	➤	description changed
	➤	technical description added
3.9,1	0;2	FROM
	➤	length may be 1-70 (was 1-20) chars
	➤	description changed
	➤	technical description added
	➤	"C" cross-reference removed
3.9,1.3	0;5	CONFIRMATION REQUESTED?
	➤	name made all caps
3.9,1.35	0;8	ORIGINAL MESSAGE
	➤	description changed
3.9,1.4	0;3	SENT DATE/TIME
	➤	name changed
	➤	title changed
	➤	definition changed
	➤	exact date/time required
	➤	technical description added
3.9,1.7	0;7	MESSAGE TYPE
	➤	definition changed
	➤	free text code combinations
	➤	description changed
3.9,1.8	0;10	SCRAMBLE HINT
	➤	description changed
3.9,1.85	K	SCRAMBLE KEY
	➤	description changed
	➤	technical description added

3.9,9	5;1	INCOMING MESSAGE ID
	➤	length changed from 14 to 110
	➤	description changed
	➤	"AI" cross-reference changed
3.91,.01	0;1	RECIPIENT
	➤	definition changed
	➤	length may be 1-85 (was 3-65) chars
	➤	technical description added
3.91,1	0;2	LAST RESPONSE READ
	➤	definition changed
	➤	changed to response number (was pointer)
	➤	description changed
3.91,2	0;3	LAST READ DATE/TIME
	➤	name changed
	➤	input transform changed
	➤	full date/time is required
3.91,3	0;4	REMOTE MESSAGE ID
	➤	changed from numeric to free text
	➤	field made longer
	➤	description changed
	➤	technical description added
3.91,4	0;5	TRANSMISSION DATE/TIME
	➤	name changed
	➤	input transform changed
	➤	full date/time is required
3.91,8	F;1	FORWARDED BY
	➤	definition changed
	➤	length may be 1-110 (was 1-45) chars
	➤	description changed
3.91,8.01	F;2	FORWARDED BY (XMDUZ)
	➤	definition changed
	➤	pointer to 200 (was numeric)

3.91,8.5	C;1	COPIED DATE/TIME
➤	name changed	
➤	length shortened from 40 to 15 chars	
➤	description changed	
3.91,9	0;8	NETWORK TRANSMISSION TIME
➤	description changed	
3.91,10	0;9	PRIORITY RESPONSES?
➤	name changed	
3.91,11	0;10	FIRST READ DATE/TIME
➤	name changed	
➤	input transform changed	
➤	full date/time is required	

^XMB(4.2, DOMAIN file

• Fields Changed

4.2,.01	0;1	NAME
➤	description changed	
➤	input transform changed	
➤	technical description added	
4.2,1	0;2	FLAGS
➤	input transform changed to force uppercase	
➤	length shortened from 10 to 5	
4.23,.01	0;1	SYNONYM
➤	length increased from 30 to 64	
➤	"C" cross-reference changed to MUMPS and cross-reference length increased from 30 to 64	

^XMB(4.2997, REMOTE USER DIRECTORY file

• Fields Changed

4.2997,99	0;7	NETWORK ADDRESS
➤	made an identifier	

^XMB(4.2999, MESSAGE STATISTICS file

- Fields Deleted**

4.2999,17 0;7 TOTAL MESSAGES RECEIVED
 ➤ duplicated 9

- Fields Added**

4.29992,2 0;3 XMIT AUDIT ERROR
 ➤ error message if transmit fails

^XMB(1, MAILMAN SITE PARAMETERS file

- file name changed
- file description changed
- application group changed to XM

- Fields Deleted** (18 month notification period waived by DBA)

4.3,6 2;0 *POSTMASTER
 ➤ not used

4.32,.01 0;1 *POSTMASTER
 ➤ not used

4.3,8 0;7 MCTS DEVICE
 ➤ not used

4.3,8.1 0;10 *NETWORK LOG DEVICE
 ➤ not used

4.3,8.5 0;11 VADATS NAME
 ➤ not used

4.3,9 0;8 AGENCY CODE
 ➤ previously moved to 8989.3,9

4.3,11 3;1 AUTO-GENERATE ACCESS CODES
 ➤ previously moved to 8989.3,11

4.3,12 3;2 USER CHARACTERISTICS TEMPLATE
 ➤ previously moved to 8989.3,12

4.3,13 3;3 *TASKMAN PRIORITY
 ➤ previously marked for deletion

4.3,14	3;4	*TASKMAN PARTITION SIZE
	➤ previously marked for deletion	
4.3,15	3;5	*TASKMAN RETENTION TIME
	➤ previously marked for deletion	
4.3,16	3;6	*TASKMAN HANG BETWEEN JOBS
	➤ previously marked for deletion	
4.3,19	19;1	OPTION AUDIT
	➤ previously moved to 8989.3,19	
4.3,19.1	19.1;0	OPTION TO AUDIT
	➤ previously moved to 8989.3,19.1	
4.36,.01	0;1	OPTION TO AUDIT
	➤ previously moved to 8989.36,.01	
4.3,19.2	19.2;0	NAMESPACE TO AUDIT
	➤ previously moved to 8989.3,19.2	
4.35,.01	0;1	NAMESPACE TO AUDIT
	➤ previously moved to 8989.35,.01	
4.3,19.3	19.3;0	USER TO AUDIT
	➤ previously moved to 8989.3,19.3	
4.34,.01	0;1	USER TO AUDIT
	➤ previously moved to 8989.34,.01	
4.3,19.4	19;2	INITIATE AUDIT
	➤ previously moved to 8989.3,19.4	
4.3,19.5	19;3	TERMINATE AUDIT
	➤ previously moved to 8989.3,19.5	
4.3,20	.1;0	MAILMAN PURGE DATE
	➤ duplicated field 4.302	
4.3,21	NPI;E1	NEW PERSON IDENTIFIERS
	➤ previously moved to 8989.3,21	
4.3,31.1	SPL;1	MAX SPOOL LINES PER USER
	➤ previously moved to 8989.3,31.1	
4.3,31.2	SPL;2	MAX SPOOL DOCS PER USER
	➤ previously moved to 8989.3,31.2	
4.3,31.3	SPL;3	MAX SPOOL DOC LIFE-SPAN
	➤ previously moved to 8989.3,31.3	

4.3,32	ABPKG;0	ALPHA/BETA TEST PACKAGE
	➤ previously moved to 8989.3,32	
4.332,.01	0;1	ALPHA/BETA TEST PACKAGE
	➤ previously moved to 8989.332,.01	
4.332,.02	0;2	DATE LAST UPDATED
	➤ previously moved to 8989.332,.02	
4.332,.03	0;3	ADDRESSEE FOR USAGE RPT
	➤ previously moved to 8989.332,.02	
4.332,.04	0;4	VERSION NUMBER
	➤ previously moved to 8989.332,.02	
4.332,1	1;0	PKG NAMESP OR PREFIX
	➤ previously moved to 8989.332,1	
4.3321,.01	0;1	PKG NAMESP OR PREFIX
	➤ previously moved to 8989.3321,.01	
4.3321,1	1;0	EXCL NAMESP OR PREFIX
	➤ previously moved to 8989.3321,1	
4.33211,.01	0;1	EXCL NAMESP OR PREFIX
	➤ previously moved to 8989.33211,.01	
4.3,33	ABOPT;0	ALPHA,BETA TEST OPTION
	➤ previously moved to 8989.3,33	
4.333,.01	0;1	ALPHA,BETA TEST OPTION
	➤ previously moved to 8989.333,.01	
4.333,.02	0;2	ACCESSES SINCE LAST UPDATE
	➤ previously moved to 8989.333,.02	
4.3,41	4;0	VOLUME SET
	➤ previously moved to 8989.3,41	
4.304,.01	0;1	VOLUME SET
	➤ previously moved to 8989.304,.01	
4.304,1	0;2	*INHIBIT LOGON?
	➤ previously marked for deletion	
4.304,2	0;3	MAX SIGNON ALLOWED
	➤ previously moved to 8989.304,2	
4.304,3	0;4	*REQUIRED VOLUME SET
	➤ previously marked for deletion	

4.304,4	0;5	*MANAGER UCI
➤	previously marked for deletion	
4.304,5	UCI;0	*UCI
➤	previously marked for deletion	
4.3045,.01	0;1	*UCI
➤	previously marked for deletion	
4.3045,1	VOL;0	*LINKED VOLUME SET
➤	previously marked for deletion	
4.30451,.01	0;1	*LINKED VOLUME SET
➤	previously marked for deletion	
4.30451,1	0;2	*LINKED UCI
➤	previously marked for deletion	
4.304,6	0;6	LOG SYSTEM RT?
➤	previously moved to 8989.304,6	
4.304,7	0;7	*TASKMAN JOB LIMIT
➤	previously marked for deletion	
4.304,8	0;8	*OUT OF SERVICE
➤	previously marked for deletion	
4.304,9	0;9	*REPLACEMENT VOLUME SET
➤	previously marked for deletion	
4.3,51	5;0	VAX CLUSTER NODE (inactive)
➤	not used	
4.351,.01	0;1	NODE NAME (inactive field)
➤	not used	
4.351,1	0;2	TASKMAN JOB LIMIT (inactive)
➤	not used	
4.3,202	XUS;2	DEFAULT # OF ATTEMPTS
➤	previously moved to 8989.3,202	
4.3,203	XUS;3	DEFAULT LOCKOUT TIME
➤	previously moved to 8989.3,203	
4.3,204	XUS;4	DEFAULT MULTIPLE SIGN-ON
➤	previously moved to 8989.3,204	
4.3,205	XUS;5	ASK DEVICE TYPE AT SIGN-ON
➤	previously moved to 8989.3,205	

4.3,206	XUS;6	DEFAULT AUTO-MENU
➤	previously moved to 8989.3,206	
4.3,209	XUS;9	DEFAULT TYPE-AHEAD
➤	previously moved to 8989.3,209	
4.3,210	XUS;10	DEFAULT TIMED-READ (SECS)
➤	previously moved to 8989.3,210	
4.3,211	XUS;11	BYPASS DEVICE LOCK-OUT
➤	previously moved to 8989.3,211	
4.3,212	XUS;12	*BYPASS SIGN-ON LOG
➤	previously marked for deletion	
4.3,212.1	4.33;0	DEVICE TO AUDIT
➤	previously moved to 8989.3,212.1	
4.33,.01	0;1	DEVICE TO AUDIT
➤	previously moved to 8989.33,.01	
4.3,212.5	XUS;14	FAIL ACC ATMPT AUDT
➤	previously moved to 8989.3,212.5	
4.3,213	XUS;13	BRIEF SIGN-ON DISPLAY
➤	not used	
4.3,214	XUS;15	LIFETIME OF VERIFY CODE
➤	previously moved to 8989.3,214	
4.3,216	XUS;16	INTERACTIVE USER PRIORITY
➤	previously moved to 8989.3,216	
4.3,240	INTRO;16	INTRO TEXT
➤	previously moved to 8989.3,240	
4.3,300	XUCP;1	LOG RESOURCE USAGE?
➤	previously moved to 8989.3,300	

- **Fields Added**

4.3,7.2	0;7	BIG GROUP SIZE
➤	size for possible later delivery	
4.3,7.3	0;8	SHOW DUZ WHEN ADDRESS MESSAGE
➤	yes/no	
4.3,7.4	0;10	SHOW ADDRESS ON USER LOOKUP
➤	yes/no	

- 4.3,8.15 0;18 TCP/IP POLLER RUN FLAG
 - existing field, but not in ^DD
- 4.3,16.1 .16;1 P-MESSAGE LINE LIMIT
 - limit lines printed to P-MESSAGE
- 4.3,17.1 .17;1 MAX DIGITS FOR MESSAGE NUMBER
 - limit message number size

- **Fields Changed**

- 4.3,.01 0;1 DOMAIN NAME
 - description changed
- 4.3,1 0;2 TIME ZONE
 - description changed
 - required field
 - cross-reference ^XMB("TIMEDIFF") added
- 4.3,2 1;0 SUBORDINATE DOMAIN
 - description changed
- 4.31,.01 0;1 SUBORDINATE DOMAIN
 - description changed
- 4.31,1 0;2 DATE CHRISTENED
 - description changed
- 4.31,2 0;3 CHRISTENED BY
 - description changed
- 4.3,4.301 .14;1 NO-PURGE DAYS BUFFER
 - name, definition, & help changed
 - description changed
- 4.3,4.302 .1;0 PURGE AUDIT
 - name changed
 - description changed
- 4.302,.01 0;1 PURGE DATE
 - name changed
 - description changed
- 4.302,1 0;2 REMAINING MESSAGES
 - name changed
 - description changed

4.302,2	0;3	PURGED MESSAGES
	➤ description changed	
4.302,3	0;4	START PURGE DATE
	➤ name, definition, & help changed	
	➤ description changed	
4.302,4	0;5	STOP PURGE DATE
	➤ name, definition, & help changed	
	➤ description changed	
4.302,5	0;6	PURGE TYPE
	➤ name changed	
	➤ definition changed	
	➤ help added	
	➤ description changed	
4.302,6	0;7	PURGE MESSAGES OLDER THAN DATE
	➤ description changed	
4.302,7	0;8	LAST UPDATE
	➤ description changed	
4.302,8	0;9	LAST DATE PROCESSED
	➤ name, help changed	
	➤ definition changed	
	➤ description changed	
4.3,4.304	NOTOPURGE;1	WEEKDAY DAYS TO PURGE
	➤ name, help changed	
	➤ definition changed	
	➤ description changed	
4.3,5.1	0;15	MESSAGE ACTION DEFAULT
	➤ description changed	
4.3,5.11	.11;1	COPY LIMIT – RECIPIENTS
	➤ name changed	
	➤ description changed	
4.3,5.12	.11;2	COPY LIMIT – RESPONSES
	➤ name changed	
	➤ description changed	

4.3,5.13	.11;3	COPY LIMIT – LINES
➤	name changed	
➤	description changed	
4.3,7	0;6	REQUIRE INTRODUCTIONS?
➤	name changed	
4.3,7.5	0;12	CPU (UCI,VOL) FOR FILER TO RUN
➤	name changed	
➤	description changed	
4.3,7.7999	FTP-NOTES;0	FTP NOTES
➤	description changed	
4.3,8.13	7;1	STATS NORMALIZATION
➤	name changed	
4.3,8.14	XMUT2-LINES;1	LARGE MESSAGE REPORT LINES
➤	name changed	
➤	description changed	
4.3,8.3	NETWORK-LIMIT;1	NETWORK – MAX LINES SEND
➤	name changed	
➤	description changed	
4.3,8.31	NETWORK-LIMIT;2	NETWORK – MAX LINES RECEIVE
➤	name changed	
➤	description changed	
4.3,10	0;9	IN-BASKET-PURGE DAYS
➤	name changed	
➤	description changed	
4.3,10.01	.15;1	IN-BASKET-PURGE TYPE
➤	description changed	
➤	executable help deleted	
4.3,10.2	0;16	BACKGROUND FILER RUN FLAG
➤	description changed	
4.3,10.3	.13;1	BACKGROUND FILER RUN PRIORITY
➤	description changed	

4.3,142	.14;2	NO-PURGE DAYS BUFFER (LOCAL)
	➤ name, help changed	
	➤ definition changed	
	➤ description changed	
4.3,217	XUS;17	DEFAULT INSTITUTION
	➤ help changed	
	➤ description changed	
	➤ technical description added	
4.3,241	6;1	BACKGROUND MESSAGE DELIVERERS
	➤ input transform changed	
	➤ description changed	
	➤ help added	
	➤ executable help changed	
4.3,242	6;2	BACKGROUND RESPONSE DELIVERERS
	➤ input transform changed	
	➤ description changed	
	➤ help added	
	➤ executable help changed	

Changes to Bulletins

- **Bulletins Renamed**

XM SEND ERR RECIPIENT	recipient problem (was XMUSERNO)
-----------------------	----------------------------------

- **Bulletins Changed**

XMRDACK	text altered
---------	--------------

- **Bulletins Added**

XM FWD ADDRESS DELETE	forwarding address deleted
XM GROUP ERROR	error in mail group
XM SEND ERR MSG	message rejected by remote site
XM SEND ERR REMOTE MSG ID	remote message id node not in message
XM SEND ERR SERVER MSG	server message not found

Changes to Functions

^DD("FUNC", FUNCTION file

- **Function Added**

XM NEXT SEQUENCE NUMBER	computes next sequence number for MAILBOX INDEX
-------------------------	---

Changes to Help Frames

^DIC(9.2, HELP FRAME file

- **Help Frames Changed**

XMHELP
XMHELP-MANUAL
XMPACKMAN

- **Help Frames Deleted**

XM-API-DISPLAYS-NUMBER
XM-API-FEATURES
XM-API-FORWARD-MESSAGE
XM-API-MAIL-GROUPS

XM-API-MESSAGE-QUERY
XM-API-REPLYING
XM-API-REQUESTING-INFORMATION
XM-CONTROLLED-PRIORITY-MAIL
XM-COORDINATORS
XM-INQUIRY
XM-INTERNAL-MESSAGE-NUMBER
XM-LOCAL-RESPONSES
XM-NEW-FEATURES
XM-NEW-FEATURES-7.0
XM-NEW-MAIL-LIST
XM-NEW-VERSION3.1FEATURES
XM-OUTPUT
XM-P-MESSAGE
XM-Q-DELETE
XM-Q-DISAPPEARED
XM-Q-INTERRUPT
XM-Q-LOOKUP
XM-Q-RECAL
XM-Q-REMOVE
XM-Q-REPLIES
XM-QUESTIONS
XM-SENDER-INFORMATION-ONLY
XM-SUGGESTION
XMANSWER
XMEDIT
XMGROUPMEMBER
XMHELP2
XMJOIN
XMMAILGROUP
XMMG-TYPE
XMNEW
XMPACK-COMP
XMPACK-ENHANCED

XMPACK-GLO
XMPACK-INSTALL
XMPACK-PACKAGE
XMPACK-PRNT
XMPACK-ROU
XMPACK-SUM
XMR-ACT-BACK
XMR-ACT-COPY
XMR-ACT-COPYA
XMR-ACT-COPYB
XMR-ACT-COPYC
XMR-ACT-COPYD
XMR-ACT-DELETE
XMR-ACT-E-SELECT
XMR-ACT-EDIT
XMR-ACT-EDIT2
XMR-ACT-EDIT3
XMR-ACT-FORWARD
XMR-ACT-NEW
XMR-ACT-NEW LATER (TICKLER)
XMR-ACT-PRINT
XMR-ACT-QUERY
XMR-ACT-REPLY
XMR-ACT-SAVE
XMR-ACT-TERM
XMR-ACT-VAPORIZE
XMR-ACT-WRITE
XMR-ACTION
XMR-ACTION-PRINT-W/O-HEADER
XMR-ACTION-PRIORITY-TOGGLE
XMR-ACTION-VAPORIZE
XMR-ACTION2
XMR-BASKET
XMR-MESS-HEADER

XMR-MESS-KEYWORD
 XMR-MESS-RANGE
 XMR-MESSAGE
 XMR-RES
 XMR-SEARCH
 XMREAD
 XMS-ADDRESS-CC
 XMS-ADDRESS-INFO
 XMS-ADDRESS-THRU
 XMS-PRIORITY
 XMS-RECIP-CONFIDENT
 XMS-RECIPIENT
 XMS-TEXT
 XMS-TRANS
 XMS-TRANS-CONFIRM
 XMS-TRANS-EDIT
 XMS-TRANS-SCR-HINT
 XMS-TRANS-SCR-PASS
 XMS-TRANS-SCRAMBLE
 XMSEND
 XMSHARE
 XMUOPT-ASKBASKET
 XMUOPT-BANNER
 XMUOPT-BML
 XMUOPT-INTRO
 XMUOPT-SUR-ASSIGN
 XMUOPT-SUR-ASSUME
 XMUOPT-SURROGATE
 XMUSEROPT

- **Help Frames Added**

New MailMan Help Frame Naming Conventions:

XM-I-	IRM-related
XM-I-S-	Site Parameters
XM-U-	User-related

Patch XM*7.1*50 Description

XM-U-A-	Address
XM-U-B-	Basket
XM-U-BO-	Basket Options
XM-U-H-	Help
XM-U-I-	Information
XM-U-K-	KIDS/PackMan
XM-U-M-	Message
XM-U-MO-	Message Options
XM-U-P-	Preferences
XM-U-Q-	Query (Search)
XM-U-R	Read

XM-I-S-BIG GROUP SIZE
XM-I-S-MAX DIGITS FOR MSG NUM
XM-I-S-MESSAGE LINE LIMIT
XM-I-S-SITE PARAMETERS
XM-U-A-ADDRESS
XM-U-A-CC
XM-U-A-GROUP LARGE
XM-U-A-GROUP LARGE-2
XM-U-A-INFO ONLY
XM-U-A-LOCAL USER NAME
XM-U-A-LOCAL USER NAME-2
XM-U-A-STAGGER DELIVERY
XM-U-A-STAGGER DELIVERY-2
XM-U-B-BASKET CONTENTS LIST
XM-U-B-BASKET NAME
XM-U-B-BASKET NAME CHANGE
XM-U-B-BASKET SELECT
XM-U-B-CHANGE DETAIL
XM-U-B-FILTER
XM-U-B-NAVIGATE CLASSIC
XM-U-B-NAVIGATE FULL SCREEN
XM-U-B-NEW MAIL LIST
XM-U-B-OPPOSITE TOGGLE
XM-U-B-READER
XM-U-B-READER CLASSIC
XM-U-B-READER DETAILED
XM-U-B-READER DETAILED LIST
XM-U-B-READER DIFF
XM-U-B-READER DIFF-2
XM-U-B-READER DIFF-3
XM-U-B-READER FULL SCREEN
XM-U-B-READER SUMMARY
XM-U-B-RESEQUENCE MESSAGES
XM-U-B-XMIT PRIORITY TOGGLE

XM-U-B-XMIT PRIORITY TOGGLE-2
XM-U-B-ZOOM TOGGLE
XM-U-BO-CLASSIC
XM-U-BO-CLASSIC-2
XM-U-BO-FULL SCREEN
XM-U-BO-FULL SCREEN LIST
XM-U-BO-FULL SCREEN-2
XM-U-H-GROUP
XM-U-H-GROUP-2
XM-U-H-GROUP-3
XM-U-H-GROUP-4
XM-U-H-Q DELETE
XM-U-H-Q DISAPPEARED
XM-U-H-Q INTERRUPT
XM-U-H-Q LOOKUP
XM-U-H-Q RECALL
XM-U-H-Q REMOVE
XM-U-H-Q REPLIES
XM-U-H-QUESTIONS
XM-U-H-USER
XM-U-I-EDITOR FM LINE
XM-U-I-EDITOR FM SCREEN
XM-U-I-GROUP
XM-U-I-GROUP COORDINATOR
XM-U-I-GROUP MEMBER
XM-U-I-GROUP-2
XM-U-I-SHARED MAIL
XM-U-I-SURROGATE
XM-U-I-SURROGATE BECOME
XM-U-I-SURROGATE-2
XM-U-I-SURROGATE-3
XM-U-I-SURROGATE-4
XM-U-K-PACKMAN COMPARE
XM-U-K-PACKMAN INSTALL
XM-U-K-PACKMAN LOAD GLOBALS
XM-U-K-PACKMAN LOAD PACKAGE
XM-U-K-PACKMAN LOAD ROUTINES
XM-U-K-PACKMAN PRINT
XM-U-K-PACKMAN SUMMARIZE
XM-U-M-ANSWER
XM-U-M-BACKUP
XM-U-M-BACKUP BEFORE SENDING
XM-U-M-CHOOSE RANGE
XM-U-M-CHOOSE RESPONSES
XM-U-M-CHOOSE SELECT
XM-U-M-CHOOSE SELECT-2
XM-U-M-CLOSED
XM-U-M-CONFIDENTIAL
XM-U-M-CONFIRM RECEIPT
XM-U-M-COPY

XM-U-M-COPY-2
XM-U-M-DELETE
XM-U-M-DELETE-2
XM-U-M-DELETE-3
XM-U-M-DELIVERY BASKET SET
XM-U-M-EDIT RECIPIENTS
XM-U-M-EDIT SUBJECT
XM-U-M-EDIT TEXT
XM-U-M-FORWARD
XM-U-M-FORWARD-2
XM-U-M-INFO ONLY
XM-U-M-LATER
XM-U-M-LATER-2
XM-U-M-LATER-3
XM-U-M-LATERED MESSAGE CHANGE
XM-U-M-LATERED MESSAGE REPORT
XM-U-M-MESSAGE HEADER
XM-U-M-NEW
XM-U-M-PRINT
XM-U-M-PRINT DEVICE P-MESSAGE
XM-U-M-PRINT HEADER
XM-U-M-PRINT NO HEADER
XM-U-M-PRINT NO HEADER-2
XM-U-M-PRINT NO HEADER-3
XM-U-M-PRINT-2
XM-U-M-PRIORITY SEND
XM-U-M-PRIORITY TOGGLE
XM-U-M-QUERY
XM-U-M-QUERY DETAILED
XM-U-M-QUERY GENERAL
XM-U-M-QUERY INFO BASIC
XM-U-M-QUERY INFO LOCAL
XM-U-M-QUERY INFO REMOTE
XM-U-M-QUERY NETWORK
XM-U-M-QUERY NETWORK-2
XM-U-M-QUERY SPECIFIC
XM-U-M-QUERY-2
XM-U-M-REPLY
XM-U-M-REPLY-2
XM-U-M-SAVE
XM-U-M-SCRAMBLE
XM-U-M-SCRAMBLE HINT
XM-U-M-SCRAMBLE PASSWORD
XM-U-M-SEND
XM-U-M-TERMINATE
XM-U-M-TERMINATE-2
XM-U-M-TRANSMIT LATER
XM-U-M-TRANSMIT NOW
XM-U-M-VAPORIZE DATE EDIT
XM-U-M-VAPORIZE DATE SEND

XM-U-M-WRITE
XM-U-M-WRITE-2
XM-U-MO-EDIT
XM-U-MO-READ
XM-U-MO-READ-2
XM-U-MO-REPLY
XM-U-MO-SEND
XM-U-MO-SEND-2
XM-U-NEW FEATURES
XM-U-NEW FEATURES-2
XM-U-NEW FEATURES-3
XM-U-NEW FEATURES-4
XM-U-NEW FEATURES-5
XM-U-P-ASK BASKET
XM-U-P-BANNER
XM-U-P-DELIVERY BASKET PRIV
XM-U-P-EDITOR
XM-U-P-FILTER
XM-U-P-FILTER CRITERIA
XM-U-P-FILTER CRITERIA-2
XM-U-P-FILTER ORDER
XM-U-P-FILTER-2
XM-U-P-FILTER-3
XM-U-P-FORWARDING ADDRESS
XM-U-P-GROUP ENROLL
XM-U-P-GROUP ENROLL-2
XM-U-P-GROUP PERSONAL
XM-U-P-GROUP PERSONAL-2
XM-U-P-INSTITUTION
XM-U-P-INTRODUCTION
XM-U-P-MESSAGE ACTION DEFAULT
XM-U-P-MESSAGE ORDER
XM-U-P-NETWORK SIGNATURE
XM-U-P-OFFICE INFO
XM-U-P-OPTIONS
XM-U-P-OPTIONS-2
XM-U-P-OPTIONS-3
XM-U-P-PERSONAL PREFERENCES
XM-U-P-P-MESSAGE FROM
XM-U-P-PRIORITY FLAG
XM-U-P-PRIORITY PROMPT
XM-U-P-PRIORITY PROMPT-2
XM-U-P-READER DEFAULT
XM-U-P-READER PROMPT
XM-U-P-SHOW MESSAGE PREVIEW
XM-U-P-SHOW TITLES
XM-U-P-SURROGATE EDIT
XM-U-P-SURROGATE READ PRIV
XM-U-P-SURROGATE WRITE PRIV
XM-U-Q-CLASSIC LOOKUP ?

XM-U-Q-CLASSIC LOOKUP ??
XM-U-Q-REMOTE USER NAME
XM-U-Q-SEARCH
XM-U-Q-SEARCH CRITERIA
XM-U-Q-SEARCH CRITERIA-2
XM-U-Q-SEARCH CRITERIA-3
XM-U-Q-SEARCH CRITERIA-4
XM-U-Q-SEARCH MAILBOX
XM-U-Q-SEARCH SYSTEM
XM-U-R-NEW LIST ALL
XM-U-R-NEW LIST BASKETS
XM-U-R-NEW LIST PRIORITY
XM-U-R-NEW PRINT
XM-U-R-NEW READ
XM-U-R-NEW SCAN
XM-U-R-READ
XM-U-R-READ NEW
XM-U-R-READ NEW-2
XM-U-R-READ-2
XM-U-R-READ-3

Changes to Options

^DIC(19, OPTION file

• Options Deleted

XMDIE SERVER	obsolete
XMQDELETE	obsolete
XMVSET	obsolete
XMVTEST	obsolete

• Options Added

XM DELIVERY BASKET EDIT	BASKET^XMVVITA	accept message delivery baskets
XM FILTER EDIT	FILTER^XMVVITA	add/edit message filters (added to option XMOTHER)
XM PERSONAL MENU		menu
XMEDITSURR	SURR^XMVVITA	edit surrogate list

• Options Changed

XM-NEW-FEATURES		help frame with new features documentation
XMASSUME	ASSUME^XMVSURR	become someone's surrogate
XMBANNER	BANNER^XMVVITA	edit your banner
XMBASKLIST	LISTMBOX^XMJBL	list contents of all baskets
XMBLOBSEND		placed out of order – Imaging package no longer uses MailMan
XMEDITFWD	FORWARD^XMVVITA	edit your forwarding address
XMEDITPERSGROUP	PERSONAL^XMVGROUP	edit personal mail group
XMEDITUSER	EDIT^XMVVITA	edit personal preferences
XMENROLL	ENROLL^XMVGROUP	enroll in a mail group
XMHELP		help menu (rearranged)
XMHELP-ON-LINE- USER_MANUAL		manual for mailman users
XMHELPALL		general mailman information
XMHELPGROUP	HELP^XMHIG	view group information
XMHELPLNK	L^XMJMT	access remote user directory
XMHELPQUEST		FAQ for MailMan
XMHELPUSE	HELP^XMHIU	view user information
XMKSP		edit site parameters (added fields 142, 143)
XMLATER-EDIT	EDIT^XMJMD	change/delete later'd message times
XMLATER-REPORT	REPORT^XMJMD	report on later'd message times
XMMGR		manage mailman main menu
XMMGR-CHECK- BACKGROUND-FILER	CHECK^XMUT5	check background filer

XMMGR-DISK-MANY-MESSAGE-MAINT	ENTER^XMAI2	ask users with many messages to do maintenance
XMMGR-IN-BASKET-PURGE	ENTER^XMUPIN	mark for purging messages not recently accessed
XMMGR-LARGE-MESSAGE-REPORT	ENTER^XMUT2	report on users with large messages
XMMGR-MAIL-GRP-COORD-W/REMOTES	RCOORD^XMVGROUP	mail group coordinator edit
XMMGR-MAIL-GRP-COORDINATOR	LCOORD^XMVGROUP	mail group coordinator edit
XMMGR-NEW-MAIL-BOX	NEWMBOX^XM	create a new mailbox for a user
XMMGR-PURGE-MESSAGE	MESSAGE^XMUTERM	select a message to purge
XMMGR-START-BACKGROUND-FILER	START^XMKPL	start background filer
XMMGR-STOP-BACKGROUND-FILER	STOP^XMKPL	stop background filer
XMMGR-TERMINATE-MANY	ALL1^XMUTERM	delete multiple qualifying mailboxes automatically
XMMGR-TERMINATE-ONE	CHOOSE^XMUTERM	select qualifying mailbox to delete
XMMGR-TERMINATE-SUGGEST	ALL2^XMUTERM	suggest mailboxes for deletion
XMNET		network management menu
XMNEW	NEW^XMJBN	read new messages and responses
XMOTHER		other menu (rearranged)
XMPACK	PAKMAN^XMJMS	load a packman message
XMPOST	BULLETIN^XMJMBULL	manually send a bulletin
XMR-BROADCAST-VA-WIDE	ENT^XMGAPI3	broadcast message VA-wide to SHARED,MAIL
XMR-SEQ-RECEIVE	BAT^XMR	receive sequential media messages
XMREAD	MANAGE^XMJBM	manage messages
XMS-SEQ-TRANSMIT	BAT^XMS	transmit sequential media messages
XMSEARCH	FIND^XMJMF	message search
XMSEND	SEND^XMJMS	send a message
XMSHARE	SHARE^XMVSURR	become "SHARED,MAIL" surrogate
XMSUGGESTION	SEND^XMJMSEA	send anonymous message to SHARED,MAIL's suggestion box
XMUSER		main menu (rearranged)
XMUT-CHKFIL	CHKFILES^XMUT4	check integrity of, and repair globals
XMUT-REC-DELIVER	G^XMUT1	deliver found messages into user's "IN" basket
XMYB-BROADCAST-VA-WIDE	ENT^XMGAPI3	broadcast message VA-wide to all users

- **User Menu Structure Changed**

<u>XMUSER</u>	<u>MailMan Menu</u>
XMNEW	NML New Messages and Responses
XMREAD	RML Read/Manage Messages
XMSEND	SML Send a Message
XMSEARCH	Query/Search for Messages
XMASSUME	Become a Surrogate (SHARED,MAIL or Other)
XM PERSONAL MENU	Personal Preferences
XMEDITUSER	User Options Edit
XMBANNER	Banner Edit
XMEDITSURR	Surrogate Edit
XM FILTER EDIT	Message Filter Edit
XM DELIVERY BASKET EDIT	Delivery Basket Edit
XMENROLL	Enroll in (Disenroll from) Mail Group
XMEDITPERSGROUP	Personal Mail Group Edit
XMEDITFWD	Forwarding Address Edit
XMOTHER	Other MailMan Functions
XMLATER-REPORT	Report on Later'd Messages
XMLATER-EDIT	Change/Delete Later'd Messages
XMBASKLIST	Mailbox Contents List
XMPACK	LML Load PackMan Message
XMTALK	TalkMan
XMHELP	Help (User/Group Info., etc.)
XMHELPUSE	User Information
XMHELPGROUP	Group Information
XMHELPLNK	Remote User Information
XM-NEW-FEATURES	New Features in MailMan
XMHELPALL	General MailMan Information
XMHELPQUEST	Questions and Answers on MailMan
XMHELP-ON-LINE-USER_MANUAL	Manual for MailMan Users

